

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2001-NM-274-AD; Amendment 39-13029; AD 2003-03-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-300, -400, and -500 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Boeing Model 737-300, -400, and -500 series airplanes, that currently requires replacement, with new parts, of the existing actuators or the rod ends on the existing actuators at wing leading edge slat positions 1, 2, 5, and 6. This amendment adds a one-time inspection of all the rod ends on the actuators of the wing leading edge slats to determine if vibro-engraving was used to identify the parts, and corrective action, if necessary. This amendment is prompted by reports indicating that vibro-engraving was found on new rod ends during installation; such part markings create stress risers that reduce the fatigue life of the rod ends. The actions specified by this AD are intended to prevent fatigue cracking, which could result in failure of the rod ends, uncommanded deployment of the wing leading edge slat, and consequent reduced controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective March 5, 2003.

The incorporation by reference of Boeing Alert Service Bulletin 737-27A1243, dated July 26, 2001, excluding Evaluation Form; and Boeing Alert Service Bulletin 737-27A1211, Revision 2, dated December 21, 2000, including Information Notice 737-27A1211 IN 03, dated July 26, 2001, excluding Evaluation Form; as listed in the regulations, is approved by the Director of the Federal Register as of March 5, 2003.

The incorporation by reference of Boeing Alert Service Bulletin 737-27A1211, dated November 19, 1998; and Revision 1, dated December 9, 1999; as listed in the regulations, was approved previously by the Director of the Federal Register as of February 29, 2000 (65 FR 3801, January 25, 2000).

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules

Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Douglas Tsuji, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, Washington 98055-4056; telephone (425) 227-1506; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 2000-02-03, amendment 39-11521 (65 FR 3801, January 25, 2000), which is applicable to certain Boeing Model 737-300, -400 and -500 series airplanes, was published in the Federal Register on June 18, 2002 (67 FR 41355). The action proposed to continue to require replacement, with new parts, of the existing actuators or the rod ends on the existing actuators at wing leading edge slat positions 1, 2, 5, and 6. The new action proposed to add a one-time inspection of all the rod ends on the actuators of the wing leading edge slats to determine if vibro-engraving was used to identify the parts, and corrective action, if necessary.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received. One commenter has no comments.

Request To Change Summary Section

One commenter asks that the summary section of the proposed AD be changed to include the part number(s) of the rod ends that are affected by vibro-engraving. The commenter's understanding is that only the new rod end having part number (P/N) 69-73485-9, and the rod end and switch assembly having P/N 65-44760-28, are affected by the vibro-engraving. The same commenter states that the summary section should specify only slat actuators that have been modified by Boeing Alert Service Bulletin 737-27A1211 (referenced in the proposed AD as the appropriate source of service information for accomplishment of certain actions) and have the rod end P/Ns specified above.

The FAA does not agree to change the summary section in the final rule. The summary section in the AD already states that, "This proposal is prompted by reports indicating that vibro-engraving was found on new rod ends. * * * "

Request To Change Paragraphs (a) and (c)

One commenter states that the paragraph (a) of the proposed AD be changed to specify line numbers (L/N) 1001 through 3063 inclusive. The commenter adds that L/Ns 3064 through 3132 inclusive should be removed from paragraph (a) of the proposed AD because airplanes having L/Ns 3075, 3109, and 3116 have actuators with the new rod end that were installed during production.

Another commenter asks that paragraph (c) of the proposed AD be changed to specify that the general visual inspection only be done on slat actuators that have been modified by Service Bulletin 737-27A1211, and that have rod ends with P/N 69-73485-9.

We do not agree that paragraph (a) should be changed to specify the line numbers suggested by the commenter, nor do we agree that the general visual inspection specified in paragraph (c) need only be done on slat actuators that have been modified by Boeing Alert Service Bulletin 737-27A1211 and have P/N 69-73485-9. Some of the vibro-engraved rod ends were shipped as spares and could now be installed on production airplanes having L/Ns 3064 through 3132 inclusive, which were not listed in the effectivity specified in Service Bulletin 737-27A1211. We find that no change to the final rule is necessary in this regard.

We do agree to add the part numbers of the rod ends that are affected by vibro-engraving to paragraph (c) of this final rule for clarification, as they were not specified in the proposed AD.

Credit for Previous Accomplishment of Certain Actions

One commenter asks that paragraph (c) of the proposed AD be changed to give credit for doing the actions required by that paragraph per the two notes listed before the inspection procedures specified in the Work Instructions of Boeing Alert Service Bulletin 737-27A1243. Another commenter asks that operator record verification be added to the proposed AD as an alternative method of compliance (AMOC).

We partially agree with the commenters. We agree to add a new paragraph (d) to this final rule to give credit for accomplishment of the actions done per the notes. We do not agree that an AMOC is necessary, because credit for the applicable actions has been added in paragraph (d) of this final rule.

Change to Final Rule

We have changed the compliance time specified in paragraph (c)(1) of this final rule to add a grace period for airplanes on which the rod ends were replaced per Boeing Service Bulletin 737-27A1211, dated November 19, 1998; or Boeing Alert Service Bulletin 737-27A1211, Revision 2, dated December 21, 2000. The grace period was inadvertently omitted in the proposed AD.

Explanation of Editorial Change

We have changed the service bulletin citations throughout this final rule to exclude the Evaluation Form. (The form is intended to be completed by operators and submitted to the manufacturer to provide input on the quality of the service bulletins; however, this AD does not include such a requirement.)

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 1,963 airplanes of the affected design in the worldwide fleet. The FAA estimates that 799 airplanes of U.S. registry will be affected by this AD.

Replacement of the leading edge slat actuator with an actuator that has a new rod end is one option for compliance with the actions currently required by AD 2000-02-03. Replacement of the actuators on slat positions 1, 2, 5, and 6 takes approximately 3 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Required parts cost approximately \$32,252 per airplane. Based on these figures, the cost impact of the installation of actuators with new rod ends, as provided by AD 2000-02-03 as one option, is estimated to be \$32,432 per airplane.

In lieu of installation of an actuator with a new rod end, AD 2000-02-03 provides an option for replacement of the rod ends on the existing actuators. This action takes approximately 4 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Required parts cost between approximately \$5,928 and \$21,544 per airplane. Based on these figures, the cost impact of the replacement of the rod ends, as provided by AD 2000-02-03 as a second option, is estimated to be between \$6,168 and \$21,784 per airplane.

The new inspection that is required in this AD action will take approximately 2 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the inspection required by this AD on U.S. operators is estimated to be \$95,880, or \$120 per airplane.

Should an operator be required to accomplish the replacement of the rod end, it would take approximately 1 work hour per rod end to accomplish the replacement, at an average labor rate of \$60 per work hour. Required parts would cost between \$2,917 and \$5,527 per rod end. Based on these figures, the cost impact of any replacement action is estimated to be between \$2,977 and \$5,587 per rod end.

Should an operator be required to accomplish the rework of the rod end, it would take approximately 2 work hours per rod end to accomplish the rework, at an average labor rate of \$60 per hour. Based on these figures, the cost impact of the rework is estimated to be \$120 per rod end.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by removing amendment 39-11521 (65 FR 3801, January 25, 2000), and by adding a new airworthiness directive (AD), amendment 39-13029, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-03-05 Boeing: Amendment 39-13029. Docket 2001-NM-274-AD. Supersedes AD 2000-02-03, Amendment 39-11521.

Applicability: Model 737-300, -400, and -500 series airplanes; line numbers 1001 through 3132 inclusive; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (g)(1) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent fatigue cracking of the rod ends of the actuators of the leading edge slats, which could result in failure of the rod ends, uncommanded deployment of the wing leading edge slat, and consequent reduced controllability of the airplane, accomplish the following:

Restatement of Requirements of AD 2000-02-03

Replacement

(a) Within 24 months after February 29, 2000 (the effective date of AD 2000-02-03, amendment 39-11521): Replace the leading edge slat actuator with an actuator that has a new rod end, or replace the rod end on the existing slat actuator with a new rod end, at slat positions 1, 2, 5, and 6; in accordance with the Accomplishment Instructions in Boeing Alert Service Bulletin 737-27A1211, dated November 19, 1998; Revision 1, dated December 9, 1999; or Revision 2, dated December 21, 2000, including Information Notice 737-27A1211 IN 03, dated July 26, 2001, excluding Evaluation Form. As of the effective date of this AD, only Revision 2 of the service bulletin shall be used.

Part Installation

(b) As of February 29, 2000, no person shall install any part having a part number identified in the "Existing Part Number" column of Section 2.E. of Boeing Alert Service Bulletin 737-27A1211, dated November 19, 1998, on any airplane.

New Requirements of This AD

One-Time Inspection

(c) For airplanes on which the actions specified in Boeing Alert Service Bulletin 737-27A1211, Revision 2, dated December 21, 2000, including Information Notice 737-27A1211 IN 03, dated July 26, 2001, excluding Evaluation Form; have not been done: Do a one-time general visual inspection of the rod ends on the actuators of the wing leading edge slats, part numbers (P/N) 65-44760-28 and 69-73485-9, to determine if vibro-engraving was used to identify the rod ends, at the time specified in paragraph (c)(1) or (c)(2) of this AD; as applicable, per the Work Instructions of Boeing Alert Service Bulletin 737-27A1243, dated July 26, 2001, excluding Evaluation Form. If no vibro-engraving is found, no further action is required by this paragraph.

Note 2: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

(1) For airplanes on which the rod ends were replaced as required by paragraph (a) of this AD, do the inspection at the later of the times specified in paragraphs (c)(1)(i) and (c)(1)(ii) of this AD.

(i) Within 12,000 flight cycles or 42 months after doing the replacement per paragraph (a) of this AD, whichever is first.

(ii) Within 12 months after the effective date of this AD.

(2) For all other airplanes: Within 12,000 flight cycles or 42 months after the effective date of this AD, whichever is first.

(d) For airplanes having actuators with rod end assemblies P/Ns 65-44760-28 and 69-73485-9: If maintenance records show that the assemblies on the airplane were never changed, or were exchanged with a rod end assembly directly acquired from Boeing or Parker Hannifin, and were not part-marked by vibro-engraving or other part markings that penetrate the surface, this is considered acceptable for compliance with the actions specified in paragraph (c) of this AD.

Corrective Action

(e) If vibro-engraving is found during the inspection required by paragraph (c) of this AD: Before further flight, rework or replace the affected rod end with a new rod end, as applicable, per the Work Instructions of Boeing Alert Service Bulletin 737-27A1243, dated July 26, 2001, excluding Evaluation Form.

Part Installation

(f) After the effective date of this AD, no person shall install on any airplane a rod end having vibro-engraving, or other part markings that penetrate the surface, unless that part has been reworked as required by this AD.

Alternative Methods of Compliance

(g)(1) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

(2) Alternative methods of compliance, approved previously in accordance with AD 2000-02-03, amendment 39-11521, are approved as alternative methods of compliance with paragraph (a) of this AD.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(h) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(i) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 737-27A1211, dated November 19, 1998, Boeing Alert Service Bulletin 737-27A1211, Revision 1, dated December 9, 1999, or Boeing Alert Service Bulletin 737-27A1211, Revision 2, dated December 21, 2000, including Information Notice 737-27A1211 IN 03, dated July 26, 2001, excluding Evaluation Form; and Boeing Alert Service Bulletin 737-27A1243, dated July 26, 2001, excluding Evaluation Form; as applicable.

(1) The incorporation by reference of Boeing Alert Service Bulletin 737-27A1243, dated July 26, 2001, excluding Evaluation Form; and Boeing Alert Service Bulletin 737-27A1211, Revision 2, dated December 21, 2000, including Information Notice 737-27A1211 IN 03, dated July 26, 2001, excluding Evaluation Form; is approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The incorporation by reference of Boeing Alert Service Bulletin 737-27A1211, dated November 19, 1998; and Boeing Alert Service Bulletin 737-27A1211, Revision 1, dated December 9, 1999; was approved previously by the Director of the Federal Register as of February 29, 2000 (65 FR 3801, January 25, 2000).

(3) Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

Effective Date

(j) This amendment becomes effective on March 5, 2003.

Issued in Renton, Washington, on January 22, 2003.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-1832 Filed 1-28-03; 8:45 am]

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